

ABSTRACT

A reactor vessel for performing a steam reforming reaction having a vessel inlet for natural gas and steam; a vessel inlet for a hot gaseous medium; a vessel outlet for the steam reforming product; and a reactor space which is a bed of steam reforming catalyst, which reactor space inlet is fluidly connected to the inlet for natural gas and steam and at its outlet end fluidly connected with the outlet for the gaseous product; wherein inside the catalyst bed a passageway is provided fluidly connected to the vessel inlet for the hot gaseous medium for passage of hot gaseous mixture counter currently to the flow of reactants in the catalyst bed.